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ABSTRACT

Although relationships between siblings potentially have the longest duration of any human relationship, research has not yet established the salient, relevant features of the sibling role in adulthood. An investigation was conducted to identify and examine the influences on the frequency of, and motivation for, contact with adult siblings. Twenty-one variables identified by the literature as affecting the frequency of contact between adult siblings were examined. These included relationship, sibling structure, family structure, demographic, and proximity variables. Using a two-stage systematic sampling procedure of telephone and mail surveys, a sample of 313 adults over age 25 who had living siblings was obtained. Subjects completed mailed questionnaires measuring the 21 variables, the frequency of sibling contact, obligation to have contact, and desire for contact. Regression analyses showed that nine variables accounted for the majority of the explained variance. Of these, geographic proximity, emotional closeness, and the sense of obligation towards siblings were the most important predictors. Future research needs to account for differences between voluntary and obligatory contact in order to further understanding of how adult siblings affect one another's lives. (NB)

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Sibling Interaction in Adulthood

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Running Head: SIBLING INTERACTION

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Abstract

This investigation's purpose was to identify and examine the influences on the frequency of, and the motivation for, contact with adult siblings. The variables suggested by the literature included relationship variables, sibling structure variables, family structure variables, demographic variables, and proximity. Using a two-stage systematic sampling procedure of telephone and mail survey, a sample of 313 adults age 25 years or older with living siblings was obtained from a southwest Virginia urban area. The portion of variance explained by the predictors was significant and substantial for each criterion. In general, geographic proximity and relationship qualities were most important in explaining the aspects of sibling interaction addressed in this research.

Sibling Interaction in Adulthood

Relationships between brothers and sisters potentially have the longest duration of any human relationship (Cicirelli, 1980b). Over 80% of American children grow up in a family including siblings (Mussen, Conger, & Kagan, 1974), and even in late adulthood 79% have living siblings (Harris, 1975). Siblings, then, are a part of the daily life experience of most people through adolescence, and a continuing part of their world throughout life. Despite this, interaction over the long duration of the sibling relationship has not been adequately examined.

Cultural expectations that the sibling relationship should be more emotionally close, meaningful and enduring than other interpersonal associations is evidenced by denoting a close friend as "like a brother" or "like a sister." In religious organizations, fraternal orders, or the military, the titles "brother" or "sister" connote solidarity and equality (Pollak, 1967). Liebow (1967) documented that impoverished urban blacks, lacking family ties, construct such associations by "going for brothers" as an attempt to create more stable, dependable relationships.

Despite these expectations that sibling relationships be especially stable and emotionally close, little research evidence exists to indicate whether this is the case. Research has yet to

establish the salient, relevant features of the sibling role in adulthood.

Recognition of the need for sibling research has remained unchanged over the last 20 years (Cicirelli, 1980b; Irish, 1965; Schvaneveldt & Ihinger, 1979; Streib & Beck, 1980; Troll, 1971). Most research has focused on sibling relationships in childhood and adolescence (Allan, 1977). Rather than addressing the "determinants and effects of sibling interaction" (Schvaneveldt & Ihinger, 1979), the large body of birth order research has dealt primarily with the effects of birth order on a variety of factors ranging from mental illness to educational attainment (Schooler, 1972).

Research with adult samples has been limited almost exclusively to the elderly. Attempts to evaluate the role of siblings in the support system of the elderly (Borland, Bergman, & Keith, 1981; Shanas, Townsend, Wedderburn, Friis, Milhøj, & Stehouwer, 1978; Ward, 1978) have tended to ignore the broader question of sibling interaction throughout adulthood.

An impediment to understanding the sibling role, and the other roles in the kinship system as well, is the use of frequency of contact data as the primary indicator of sibling involvement (Adams, 1967a). Contact <u>per se</u> has been assumed to better the lives of the people involved, a notion that Mancini (1980) has referred to as the "enrichment myth." It seems logical that in

some situations sibling contact may facilitate individual well-being while in others it may not. Attempts to date to demonstrate a relationship between the simple amount of sibling contact and morale in later life have been fruitless (Arling, 1976; Lee & Ithinger-Tallman, 1980).

There is a need, therefore, to specify the conditions under which sibling contact occurs, before the positive or negative consequences of such contact can be examined. The motivation for contact may be as important as whether contact occurs. Distinguishing between obligatory contact and contact occurring by choice has not been previously addressed. This investigation was undertaken to examine what factors influence the frequency of contact, and whether the contact was motivated by obligation or choice.

Influences on Interaction

Kin relationships are not voluntarily chosen. In adulthood, however, separate residences can make continued interaction with siblings less automatic. Interaction may then be undertaken either because of desire or obligation.

Cicirelli (1980b) has argued that, with adulthood, "sibling contact becomes voluntary except on certain ritual occasions, and most life experiences are no longer shared" (p. 455). This voluntary nature of adult sibling interaction would suggest that

if it is not rewarding, it will not be maintained (Hess & Waring, 1978).

Understanding adult sibling interaction is difficult. Previous research has shown interaction to vary according to sex (Adams, 1968; Shanas et al., 1968; Townsend, 1963), marital status (Shanas et al., 1968; Townsend, 1963), ethnic background (Johnson, 1982), social class (Adams, 1968; Allan, 1977), and perhaps by age (Cumming & Schneider, 1961).

The factors shown by previous research to influence adult sibling interaction can be grouped as relationship variables, sibling structure variables, family structure variables, demographic variables and propinquity.

Relationship Variables

The emotional closeness felt between adult siblings, the sense of obligation to siblings, and the extent of conflict between siblings have been found to be important factors influencing sibling interaction. Closeness has been found to be positively associated with the frequency and desire for interaction (Borland et al., 1981; Reiss, 1962; Ross, Dalton, & Milgram, 1980). Compatibility and affection for a sibling's spouse also make interaction more likely (Allan, 1977).

Obligation has been considered as the factor that makes kin relationships more durable than friendships (Allan, 1977; Streib & Beck, 1980). Arling (1976) has argued, however, that because

obligation is antithetical to the enjoyment of a relationship, kin interaction is not rewarding although it may be frequent.

Rivalry has been a prevalent theme of sibling research. The extent of conflict, or its influence on adult sibling relationships, has not been established, however.

Sibling Structure

The influences of birth order on personality development has been popular, but overly simplistic (Schvaneveldt & Ihinger, 1979). In addition to birth order, sex of the sibling pair, birth order of the pair, family size, age difference, and spacing of the sibling pair are also important.

Previous research has shown sibling interaction to be most frequent between sisters (Adams, 1968; Reiss, 1962), and later borns, and closely spaced siblings (Cicirelli, 1980a). Schvaneveldt and Ihinger (1979) postulated that larger family size would be related to greater solidarity among siblings.

Family Structure

Evidence indicates that sibling interaction is more important and more frequent for those who are not married and for marrieds who do not have children (Shanas et al., 1968; Townsend, 1963; Troll, Miller & Atchley, 1979). Whether or not siblings' parents are still living has also been found to affect the frequency of sibling interaction. Accordingly, interaction should be greatest

where respondents are not married or are childless, and where their parents are still living.

Demographic Variables

Age, sex, and social class have also been studied in relation to adult sibling interaction. A curvilinear relationship between age and sibling interaction has been suggested (Atchley, 1977; Cumming & Schneider, 1961), due to the fact that "kin networks... are overshadowed in the middle years by immediate responsibilities" (Streib & Beck, 1980:939). As the individual's social network shrinks in old age (Atchley, 1977; Cumming, 1963), the sibling relationship, which has endured at a limited level of involvement, now becomes one of the more prominent relationships of the old person.

In general, females are given the role of maintaining kin ties. This results in more interaction taking place with a wife's kin than a husband's (Adams, 1968; Townsend, 1963). Gender has been shown to be a significant factor in the social interaction patterns of the elderly (Petrowsky, 1976; Powers & Bultena, 1976).

Adams (1967b, 1968) and Allan (1977) have both found that the frequency of sibling interaction appears to decrease with social class status. The motivation for contact may also vary with class.

Propinquity

Residential proximity has been associated with frequency of contact in previous studies (Adams, 1968; Reiss, 1962), and it places obvious constraints on interaction. Although the contact frequency may be greater if siblings live close to each other, such proximity may not necessarily provide for a close sibling relationship. Similarly, the lack of proximity may not preclude close sibling ties.

In summary, the existing literature on sibling interaction in adulthood suggests that several relational, structural, and demographic factors influence adult sibling relationships. The present research was undertaken to examine the relative influence of these various factors on the frequency of, and motivation for contact between adult siblings.

Method

The population for this study consisted of adults 25 years of age or older, living in the urban area of Roanoke, Virginia, with at least one living sibling. This urban area in 1980 had a population of 177,475 (U.S. Bureau of the Census, 1982).

Two-Stage Probability Sampling

To obtain the specialized population required to meet the objectives of this research, a two-stage, probability design was used (Dillman, 1978; Lee & Finney, 1977). This two-stage procedure includes first obtaining a list of eligible respondents

having the characteristics of the target population, and then mailing the survey to this obtained sample.

The first-stage sample was obtained by systematically selecting every N^{th} case from the telephone directory to obtain a sample of 700. The sampling interval was computed in centimeters and this distance was measured from a random start and repeated until the sample was drawn (Dillman, 1978; Sudman, 1976). If such a systematic sampling procedure is functionally equivalent to a random procedure, this method provided a representative sample (Lee & Finney, 1977).

Identified households were then contacted by telephone to determine if any eligible adults would agree to participate. Three attempts were made to contact each household before it was dropped from the sample. When a household contained more than one member meeting the criteria for inclusion in the sample, one member of the household was randomly selected using a table of random numbers.

After respondents who met the sample criteria had agreed to participate in the study, a sibling of the respondent was randomly selected as the sibling for the respondent to discuss in the mailed questionnaire. This random selection was done in the telephone interview by asking the number of siblings the selected household respondent had, and randomly picking one, using a table of random numbers. Before the questionnaire was mailed, the name

of the respondent's designated sibling was written on it to serve as a reminder to the respondent when filling out the questionnaire.

Data Collection

The data were collected by mailed questionnaires following the methods set forth by Dillman (1978). A questionnaire packet was mailed within a day of the telephone contact to capitalize on the prior personal contact by phone. One week after the initial mailing, a postcard follow-up was sent to thank those who had responded and serve as a reminder to those who had not.

A third mailing was sent out two-and-a-half weeks after the initial mailing. This mailing included a questionnaire, return envelope, and a cover letter emphasizing more strongly than the original letter, the importance of returning the questionnaire. After allowing three weeks for responses from the third mailing, data collection was concluded.

Measurement

Criterion measures. Contact was at first defined as interaction between siblings that occurred either in person or by phone or letter. When the data were examined it was found that the frequency of phoning and the frequency of seeing in person were highly correlated ($r=.67$, $p < .001$). The frequency of writing was less than once a year for 61% of the respondents, and no respondents reported letter writing as their most frequent form of

contact. Therefore, the frequency contact measure was computed as the mean score for contact in person or by phone, and letter writing was deleted.

The extent to which contact was obligatory was assessed with a scale including eight types of contact activities and the extent to which the activity was engaged in because of obligation. The mean response value for the scale was used as the measure.

The desire for contact was assessed using the same eight contact activities as the obligation for contact measure. The response categories varied from no desire to strong desire. Again, mean response value for the scale was the measure.

Analysis of the scale properties for these measures provided justification for their use as summated scales. Internal consistency was high (Obligation: Cronbach's Alpha = .88; Desire: Alpha = .91). Factor analysis revealed only one significant factor in each scale, with this factor explaining 55.5% and 62.5% of the variance respectively. The items on both scales loaded .73 or better, with the exception of the item on letter writing.

Predictor measures. Emotional closeness was measured with a 10-item scale assessing general emotional closeness between the respondent and sibling and was derived by factor analysis (Thompson, 1982) from a 50-item measure of intimacy developed by Walker (1979). Post hoc analysis of the scale with the present sample showed it to have just one factor. This principal factor

accounted for 76.1% of the variance. Factor loadings for the items ranged from .80 to .92. The internal consistency of the scale was high (Cronbach's Alpha = .96). The mean response value for the 10-item scale was used as the emotional closeness predictor variable.

The general quality of the respondent's relationship to a brother-in-law or sister-in-law was assessed with one global item on perceived emotional closeness. The response categories for this item ranged from extremely close to extremely distant on a six-point scale.

The sense of obligation respondents felt for siblings was assessed using a six-item scale adapted from Seelbach's (1978) filial piety scale. The items were reworded to be applicable to adult brothers and sisters, and consequently no previous data on the validity of the scale in this form were available. Analysis of this revised scale with data obtained in the present study showed it to be internally consistent and unidimensional. Factor analysis showed that one principal factor accounted for 61% of the variance in the scale. All factor loadings were .74 or higher. Cronbach's Alpha was .87. These analyses justified treating the items as a summated scale.

The perceived amount of conflict in the sibling relationship was assessed using a five-item scale developed by Braiker and Kelley (1979) for studying conflict in intimate relationships.

The frequency of of five conflict behaviors occurring in the relationship was measured with a five-point Likert-type response category that ranged from "never" to "very often." The conflict scale had one factor, which accounted for 65.2% of the variance. The factor loading was a .71 for item b. The other four loadings were .80 or higher. Cronbach's Alpha was .86. These analyses supported the use of this measure as a summated scale.

The sibling structure, family of procreation structural variables, and the sex and age demographic variable were obtained by simply asking for the necessary information. Some of the variables were collapsed (i.e. birth order was collapsed to first born, middle born, and last born) and the categorical variables were dummy coded for analysis.

Social class of the respondent and sibling were determined using Hollingshead's two-factor index of social status (Hollingshead & Redlich, 1958). The standardized items developed by the Center for Coordination of Research on Social Indicators (Van Dusen & Zill, 1975) were used to elicit the occupation of the respondent and the respondent's sibling. Education and occupation were coded according to the categories developed by Hollingshead. The class score was computed using Hollingshead's weights of seven for occupation and four for education. This sum was used as the social class score rather than one of the five class rankings Hollingshead derived from these scores, inasmuch as these rankings

may no longer be the same as when Hollingshead developed them. A class difference score was obtained by computing the absolute difference in social class scores for the sibling pair.

One question was used to determine the geographic proximity of respondent to the the randomly selected sibling. It was simply a measure of the approximate actual distance from the sibling. It had seven response categories ranging from "less than one mile" to "more than 500 miles."

Analysis

Regression analysis with simultaneous entry was used to determine the contribution of each predictor to the variance on the three criterion measures. In the interests of parsimony, and because interpretation of a large number of variables becomes problematic with multiple regression (Warwick, 1975), the initial model was reduced to those variables significant at the .05 level when entered in the equation last (Type IV Sums of Squares).

The large number of categorical variables were tested using the General Linear Model Procedure (Proc GLM) in the Statistical Analysis System computer program (Helwig & Council, 1979), so that these categorical variables could be treated as intact variables. That is, all levels of a variable could be tested at once rather than having each dummy vector tested singly. The least-square means for significant categorical variables were then tested to

determine which category within the variable was accounting for the significant effects.

Missing values were left as missing throughout the research with the exception in some cases of the computed scale scores (emotional closeness, sibling obligation, conflict, obligation to have contact, and desire for contact). In the case of these scales, mean response values were computed if the scale had a predetermined minimum number of completed items. This technique was appropriate for the five scales used in this research, given the high internal consistency and unidimensionality of each of the five scales.

Findings

The respondents in the sample had a median age of 44.9 years. The majority were married (69%), 81% had children, and about half (49%) of the entire sample had children still living at home. The mean years of education for the sample was 13.5, and 83% had at least a high school education. In comparison to the 1970 Census data, for the Roanoke SMSA, the sample was overrepresented by females, married persons, and those with a higher education.

As Table 1 shows, several of the predictor variables were correlated significantly with the criterion variables in a zero-order correlation. Only nine (see Tables 3, 4, or 5) proved to be significant when the full set of predictors was simultaneously regressed on the criterion measures. Conversely, some of the

predictors included in the final model were not significant in the simple, or zero-order, correlation.

Insert Table 1 about here

As Table 2 shows, the three dependent measures were all significantly intercorrelated ($p<.001$). One would expect this when examining closely related aspects of a phenomenon, and it should not be considered a major impediment to the present study. The majority of the variation in each criterion variable however, is unique.

Insert Table 2 about here

The regression of each of the criterion variables on the reduced model of nine predictors explained only slightly less of the variance than did the full model of 21 variables. For each criterion the reduced model explained a significant portion of the variance ($p<.001$).

Tables 3, 4, and 5 show the regression of the criterion measures on the predictors. As the tables show, emotional closeness, sense of obligation to siblings, and proximity were significant for each of the criterion, although their relative importance varies on each regression.

Insert Tables 3, 4, and 5 about here

By comparing the beta weights for the continuous variables it is possible to judge the relative contribution of the variables to the variance in the criterion. Comparing the zero-order correlations and the partial correlations indicates how much of the association between an independent variable and the criterion is unique to that predictor.

The partial r for each variable indicates the magnitude of association with the criterion when the variance explained by all the other predictors is removed from both the predictor and the criterion. When the partial increases from the simple r it indicates higher correlation between the residuals of the predictor and criterion than between the shared variances. When the partial r decreases, this indicates that the variance a predictor explains is shared by other predictors.

The three research hypotheses - i.e. that the predictors would explain a significant portion of the variance in the criterion measures, were supported. The magnitude of the R statistics was functionally important as well as statistically significant. The R^2 for frequency of contact was .69; for obligation to have contact, R^2 was .37; for desire for contact, it was .65.

Frequency of Contact

Geographic proximity made the largest relative contribution to the explained variance in frequency of contact, with emotional closeness being about two-thirds as important. Number of siblings, age difference between siblings, and the frequency of sibling conflict were also contributors. The sex of the sibling pair was significant, with sister-sister pairs more likely to have contact than brother-brother or cross-sex pairs. Brother-brother pairs and cross-sex pairs differed only very slightly on frequency of contact, although cross-sex pairs have the higher mean.

Obligation to have Contact

The respondent's perception of contact occurring due to obligation was explained mainly by the scores representing emotional closeness and sense of obligation to sibling. These made about equal contributions to the variance. Number of siblings and having children at home were also about equal in importance, but only about one-seventh as important as closeness and obligation. Those with children at home felt less obligation to have contact than those without children at home.

Desire for Contact

Emotional closeness made by far the largest contribution to the explained variance in the desire for contact variable, and sibling obligation was next in importance. The number of siblings and geographic proximity were about equal in importance, and were

negatively associated with desire for contact. Sex of respondent was also significant and of about equal importance as number of siblings and proximity. Women were more likely to have contact because they desired it more than men.

Discussion

Previous research had indicated the relevance of a variety of relational, structural, and demographic variables to interaction among adult siblings. Regression analysis showed that nine variables accounted for the majority of the explained variance.

Proximity

The present study found proximity to be clearly related to the actual occurrence of sibling contact. Even though contact included phoning - contact seemed to be encouraged by proximity. This is in agreement with results of previous studies (Adams, 1968; Reiss, 1962) regarding actual face-to-face contact. It differs, however, from the concept of the "modified extended family" (Litwak, 1960) that maintains interaction through other means. The modified extended family may rely heavily for cohesion on the indirect interaction that occurs through the kinship network.

Adams (1968) found that too-close proximity was considered a liability by his sample in that it obligated people to more contact than they desired. The present study also found this pattern in that subjects reported a positive relationship between

proximity and the obligation to have contact, but an inverse relationship between proximity and the desire for contact.

Relationship Variables

Emotional closeness. Perceived emotional closeness to the sibling was positively associated with all three dependent measures. Reiss (1962) found that adults excused infrequent kin interaction with reasons such as time and money, while explaining more frequent interaction in terms of similarity and affection. Adams (1968) concluded that interaction occurs regardless of intimacy. The results of the present study are perhaps consonant with both theses. Emotional closeness was not the only factor influencing contact frequency, but where proximity was held constant, closeness is probably the main predictor. In the present study, closeness may have mediated the affect sibling contact had on the relationship.

Sibling obligation. The sense of having a duty or obligation to one's kin has been suggested as the factor that makes kinship relations more durable than other associations (Streib & Beck, 1980). The mean response on the sibling obligation scale in the present study was 3.06 out of a possible 5.0. Thus, the sense of obligation to siblings was present and moderate for most respondents. Obligation was a significant predictor for all three aspects of adult sibling interaction studied. Contrary to Arling's (1976) thesis that contact motivated by obligation is antithetical

to the enjoyment of such interaction, in the present study obligation was the second best predictor of the desire for contact with siblings. The perception of obligation may be mediated by the emotional closeness of the relationship. That is, where emotional closeness exists, obligation may not be perceived as onerous.

Sibling conflict. The frequency of conflict with a sibling was a significant predictor only of the actual frequency of contact. Although the simple correlation with desire for contact was negative ($r=.33$, $p<.01$), this correlation declined when other predictors were controlled.

The fact that conflict was positively correlated with the frequency of contact is not wholly unexpected. By itself, conflict was not significant, but in the presence of the other variables it was. Frequent interaction can engender conflict as well as closeness. It may be that since most of those having high contact were those who lived near each other, conflict was naturally higher among this group. In the presence of the other variables in the study, conflict can then appear to be a predictor of frequency of contact. In fact, more frequent sibling conflict behaviors may have resulted from more frequent contact.

From a family systems perspective, it is more likely that adult siblings who live near each other also live near their family of origin. This would suggest a continuation of conflicts

originating in their associations with parents and maintained by respective roles defined in earlier years.

The presence of conflict, per se, should not be interpreted as a negative attribute of sibling relationships. Conflict is a well-known feature of intimacy, even in the best of relationships. From the point of view of relationship strength, it is too little or too much conflict which becomes problematic. The quality of sibling relationships, therefore, cannot be assessed on the basis of conflict frequency.

Structural Variables

Age difference. Previous research on the influence of relative age on adult sibling interaction was very limited. In the present study, age difference was negatively associated with the frequency of contact. Age-near siblings seem likely to have had more shared experiences during childhood and adolescence, and also to be in similar stages in the life course as adults, with similar experiences and family situations. This would be expected to also affect the two more subjective measures of motivation for contact, which it did not.

Number of siblings. The total number of siblings the sibling pair had was significant in predicting frequency of contact and desire for contact, with number of siblings negatively correlated for each criterion. This differs from Schvaneveldt and Ihinger's (1979) postulate that greater family size is related to greater

sibling solidarity. Perhaps as the number of siblings increases, the tangible and intangible resources one has to utilize for sibling contact may decrease per sibling.

Sex of sibling pair. The findings that sister-sister pairs had the most contact agrees with Reiss (1962) finding that sister-sister pairs were more likely to interact weekly where proximity was equal. Maintenance of kinship ties has been previously documented as an aspect of the female role in Western kinship (Adams, 1968; Townsend, 1963). This is probably part of the traditional sex role expectation that women are more adept at expressive roles, and also that women have traditionally shared more similar roles and therefore have more in common. Since women facilitate such interaction, it more often occurs with their kin.

Having children at home. Having children, and also whether or not these children are at home, has been found to be predictive of frequency of adult sibling contact in previous research (Shanas et al., 1968; Townsend, 1963). In the present study, it was predictive only of obligation to have contact. Those without children were found more likely to feel obligated to have contact with siblings. Those with children at home were filling a role that is generally accorded higher priority and they may therefore have perceived a freedom from obligation towards siblings.

Demographic Variables

Sex of respondent. Females were more likely than males to want contact with siblings regardless of the sex of the respondent's sibling. Previous research has shown kinship interaction to be female-linked, but no previous literature has suggested that women desire kin contact more than men do. This greater desire for contact was not reflected in more frequent contact with kin, perhaps because of the husband's traditional control over geographic location of the family.

Summary

Twenty-one variables identified by the literature as affecting the frequency of contact between adult siblings were examined. Although many of the 21 variables identified by previous research had significant simple correlations with one or more of the criterion measures, when each of the predictors in turn was entered into the regression last, only nine made unique contributions to the explained variances. Of these, geographic proximity, emotional closeness, and the sense of obligation towards siblings were the most important predictors.

In previous research, the frequency of contact with siblings has been used as the index of sibling closeness. In the present study, the frequency of contact was found to be related to, but still distinct from, whether contact occurred by choice or because of obligation. Geographic proximity was positively correlated

with both the frequency of contact and with contact occurring because of obligation. Proximity was negatively associated, however, with siblings having contact because of choice. Apparently, proximity obligates siblings to more contact than they might choose, whereas contact occurs more by choice alone when siblings live further apart. Thus, using frequent contact as an index of sibling closeness that necessarily betters the lives of adults, may be misleading.

The cultural norms prescribing sibling interaction are not as strong as those prescribing parental filial or marital interaction. Adults perceive that some contact with siblings is a "sibling obligation," but that contact in excess of this obligatory amount is voluntary.

Because research has failed to demonstrate a correlation between sibling interaction and measures of global well-being, it may be erroneously concluded that interaction between adult siblings is unimportant. Aside from the problems of correlating interaction with well-being, it may also be that sibling interaction is important in ways other than those assessed by global measures of well-being. Perhaps the sense that siblings are there if needed, even if never called upon, contributes to an individual's sense of belonging or security. Further research to explore the consequences of interaction between adult siblings will need to account for differences between voluntary and obligatory contact in order to further our understanding of how adult siblings affect one another's lives.

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Table 1

Correlations Between Predictor Variables and Criterion Measures

	Frequency of Contact	Obligation to Have Contact	Desire to Have Contact
1. Emotional Closeness	44**	51**	74**
2. Sibling Obligation	37**	49**	47**
3. Sibling Conflict	-01	-15*	-33**
4. Difference in Ages	01	08	09
5. Total Number of Siblings	-10	08	06
6. Geographic Proximity	68**	22**	01
7. Sexes of Siblings	22**	18**	27**
8. Respondent's Children at Home	08	10	05
9. Sex of Respondent	11	14*	28**
10. Age of Respondent	-07	01	00
11. Spacing in Birth Order of Sibling Pair	-03	09	06
12. Closeness to Sibling's Spouse	33**	27**	47**
13. Social Class of Respondent	-08	-03	-03
14. Difference in Social Class of Siblings	-12	-03	-13

(table continues)

	Frequency of Contact	Obligation to Have Contact	Desire to Have Contact
15. Parental Status of Sibling Pair	15*	09	03
16. Parental Status of Respondent	08	04	01
17. Birth Order Combination of Siblings	13	07	18
18. Marital Status of Respondent	10*	16**	07
19. Marital Status of Sibling Pair	17**	12	06
20. Children at Home for Both Siblings	08	18*	10
21. Siblings' Parents Still Living	11	07	14

Note: Correlations for the categorical variables and the criterion variables were obtained by multiple regression and are multiple correlations. Correlations for the continuous variables are Pearson product-moment correlations. Decimal points have been deleted.

*p<.05

**p<.01

Table 2

Correlations Among the Criterion Measures

	2	3
1. Frequency of Contact	.41*	.40*
2. Obligation to Have Contact	--	.56*
3. Desire for Contact		--

*p<.001

Table 3

Frequency of Contact Regressed on Reduced Model

Variable	B	Beta	Simple r	Partial r	F	p > F
1. Emotional Closeness	.31	.39	.45	.47	78.13	.0001
2. Sibling Obligation	.14	.10	.38	.14	4.35	.04
3. Sibling Conflict	.17	.11	-.01	.16	9.56	.002
4. Age Difference	-.02	-.07	-.08	-.11	4.41	.04
5. Total Number of Siblings	-.09	-.18	-.12	-.30	24.73	.0001
6. Geographic Proximity	.42	.61	.69	.73	280.33	.0001
7. Sex of Sibling Pair	--	--	.22*	--	5.86	.003
8. Respondent's Children at Home	--	--	.08*	--	.58	.45
9. Sex of Respondent	--	--	.11*	--	.23	.63

Note. Regression and correlation coefficients obtained through SPSS program New Regression (Hull & Nie, 1981) with the exception of the F-tests which were obtained through SAS program Proc GLM (Helwig & Council, 1979). F's are for the Type IV SS, that is, they represent the significance of X if entered on the last step.

* These are multiple correlation coefficients inserted into the table for illustrative purposes.

Table 4

Obligation to Have Contact Regressed on Reduced Model

Variable	B	Beta	Simple r	Partial r	F	p > F
1. Emotional Closeness	.22	.33	.49	.31	27.02	.0001
2. Sibling Obligation	.38	.32	.50	.33	28.12	.0001
3. Sibling Conflict	.02	.02	-.16	.01	.19	.67
4. Age Difference	.01	.03	.08	.04	.29	.59
5. Total Number of Siblings	.00	.00	.10	.01	.07	.79
6. Georgraphic Proximity	.06	.10	.22	.13	4.19	.04
7. Sex of Sibling Pair	--	--	.18*	--	.23	.79
8. Respondent's Children at Home	--	--	.10*	--	4.11	.04
9. Sex of Respondent	--	--	.14*	--	.72	.40

Note. Regression and correlation coefficients obtained through SPSS program New Regression (Hull & Nie, 1981) with the exception of the F-tests which were obtained through SAS program Proc GLM (Helwig & Council, 1979). F's are for the Type IV SS, that is, they represent the significance of X if entered on the last step.

* These are multiple correlation coefficients inserted into the table for illustrative purposes.

Table 5

Desire for Contact Regressed on Reduced Model

Variable	B	Beta	Simple r	Partial r	F	p > F
1. Emotional Closeness	.40	.65	.76	.66	179.12	.0001
2. Sibling Obligation	.26	.24	.49	.32	27.88	.0001
3. Sibling Conflict	-.03	-.03	-.34	-.04	.44	.51
4. Age Difference	.00	.02	.08	.03	.23	.63
5. Total Number of Siblings	-.03	-.07	.06	-.12	5.04	.03
6. Geographic Proximity	-.07	-.13	-.01	-.20	9.83	.002
7. Sex of Sibling Pair	--	--	.27*	--	.37	.69
8. Respondent's Children at Home	--	--	.05*	--	.50	.48
9. Sex of Respondent	--	--	.28*	--	5.02	.03

Note. Regression and correlation coefficients obtained through SPSS program New Regression (Hull & Nie, 1981) with the exception of the F-tests which were obtained through SAS program Proc GLM (Helwig & Council, 1979). F's are for the Type IV SS, that is, they represent the significance of X if entered on the last step.

* These are multiple correlation coefficients inserted into the table for illustrative purposes.